Vol. 30, pp. 13–16 January 22, 1917

PROCEEDINGS

OF THE

BIOLOGICAL SOCIETY OF WASHINGTON

TWO NEW OPHIURANS FROM THE CHINA SEA.

BY AUSTIN H. CLARK.*

A study of the unnamed ophiurans in the collection of the United States National Museum has brought to light the two following hitherto undescribed species from the China Sea.

Ophiopteron alatum sp. nov.

The disk is 4.5 mm. in diameter, and the arms are apparently about 25 mm. long.

The dorsal surface of the disk is covered with large naked radial shields and naked overlapping plates, the latter extending in a narrow band with parallel sides from the centre of the disk to the interbrachial border, and outwardly between the radial shields in a very narrow elongate triangle the apex of which lies at or near the base of the arms.

The centre of the disk is occupied by a pentagonal plate with rounded corners directed interradially, which has a raised and thickened border. On each side of this pentagon is a large subcircular plate, the diameter of which is about two-thirds that of the central plate. These five subcircular plates are separated by very small oval plates which lie on the angles of the central pentagon. Beyond the subcircular plates is a smaller plate, triangular in shape with the apex more or less rounded, and beyond this a very narrow triangular plate which reaches nearly or quite to the arm bases; these last two plates lie between the radial shields.

Following the small plates situated at the angles of the central pentagon is an oval plate which is about twice as long as broad, the longer diameter lying in the interradial line, beyond which are two pairs of plates, or two irregular columns of from two to four plates, reaching to the spine bearing plates of the interradial border of the disk. On either side of this interradial series of plates are a few plates with the greater part of their surface concealed through the imbrication of the plates lying within them, which delimit the straight border of the interradial plated strip.

* Published with the permission of the Secretary of the Smithsonian Institution.

The radial shields are very long, triangular, about half again as long as broad, reaching to the subcircular plate situated on the side of the central plate of the disk; their distal border is slightly wider than, to twice as wide as, the interradial band of plates; their inner distal angles are slightly produced and rounded; their outer borders are parallel to those of the adjacent radial shields; their inner borders are in contact distally, proximally diverging very slowly so as to leave a very narrowly triangular area which is occupied by plates.

The interradial border of the disk, and a patch on the lateral margin is occupied by about a dozen polygonal plates each with a short cylindrical spine which may have a rounded end, or may bear a few spinelets; these plates extend for a short distance around the outer corners of the radial shields. The interbrachial spaces below are naked except for the few spiniferous plates described above, and numerous minute calcareous spicules.

In the proximal part of the arm the upper arm plates are six sided, the proximal and distal sides of about the same length, straight, the two lateral sides about twice as long as the two posterolateral sides; in the outer part of the arm they become fan-shaped with a truncate proximal angle.

At the base of the arm the arm spines are eight in number; the second, third and fourth from the mid-dorsal line are the longest, and the uppermost is nearly as long; these are all webbed to the tip; the fifth is about as long as the first, and has a somewhat enlarged and very thorny tip; it is united to the fourth by a web which reaches about half way up both spines; the sixth is not much more than half as long as the fifth, with a club-shaped and very thorny tip and no web; the seventh is much shorter and more thorny; the lowest is in the form of a hook with two strong teeth directed backward toward the mouth; the hooked character of this spine is fully developed on the second side arm plate. The spinules on the ends of the spines, whenever they occur, are webbed for a greater or lesser distance from their bases.

The uppermost spine rapidly decreases in length, after about the ninth side arm plate occurring only as a slight spur; on the third or fourth side arm plate the second spine begins to decrease in length, becoming very small at the middle of the arm, so that beyond this point there is only a more or less partial web between the two uppermost spines (originally the third and fourth) and a small spur at the base of the inner. The lower spines remain of about the same relative proportions to the end of the arms, the hook-like character of the lowest becoming more and more pronounced and the next to the lowest tending to assume more or less the same character; the following spine tends to alternate long and short on succeeding side arm plates.

The tentacle scale is rather prominent, rounded, spanning the angle between the side arm and under arm plates.

The tentacles, as contracted in drying, are covered with numerous, and prominent, though very small, papillæ.

The under arm plates are about as long as broad with parallel sides and a prominent notch in the distal border.

Type.—Cat. No. 38,666, U. S. N. M., from the north China Sea, collected by William Stimpson.

Ctenamphiura sinensis sp. nov.

The disk is nearly circular, being only slightly flattened in the radial regions, 9.5 mm. in diameter.

The radial shields are short and broad, joined interiorly except for their extreme tips, each pair forming a heart-shaped figure which is about as broad as long, and about as long as the distance from its inner angle to the outer border of the rosette of primary plates.

The six primary plates are united in a central rosette which is entirely surrounded by a line of much smaller plates; outside of this the disk is covered with comparatively large ovoid overlapping plates, smaller, however, than the primary plates, which are largest in the middle third of the interradial areas and decrease in size toward the radial shields; in each interradial line just beyond the series of small plates surrounding the central rosette there is a single plate about as large as those of the rosette, rounded trapezoidal in shape. The plates of the dorsal surface are flat and not swollen.

The interbrachial regions below are covered with very small equal circular strongly imbricating plates which near and at the dorsolateral margin of the disk become larger, longer and more pointed, abruptly defining the dorsal surface of the disk.

The oral shields are approximately rhombic, though usually with the distal sides somewhat longer than the proximal; all the sides are slightly concave.

The side mouth shields meet within; they are broadly crescentic with broadly rounded ends; the chord of the crescents of the two adjacent shields make with each other a very broadly obtuse angle.

The distalmost mouth papilla is circular and scale-like, similar to a tentacle scale situated opposite it on the first under arm plate, but slightly larger; the next is much larger though not much broader basally, and conical; the apical is smaller than the central, lower, more or less pointed.

The arms decrease in width, and especially in height, noticeably in the basal fourth, but very slowly from that point onward.

The upper arm plates in the proximal half of the arm are approximately three times as broad as long, the lateral thirds of the distal border broadly convex, the median third concave.

Just beyond the disk the arm spines are ten or eleven in number; the lowest is considerably stouter and longer than (sometimes twice as long as) the others; the next is slightly longer than the following which are short and approximately equal; at the fifteenth side arm plate beyond the border of the disk the number of arm spines is reduced to eight of which the lowest, though stouter, is not much longer than the others; in

the central portion of the arm there are six arm spines, the lowest very slightly longer and stouter than the next, which again is very slightly longer and stouter than the others, these being subequal; and in the outer portion of the arm there are five arm spines, and distally four.

The under arm plates are about one-third broader than long, rectangular, with blunted corners and concave lateral and distal borders. In the enlarged proximal portion of the arm a rounded ridge appears on either side of each under arm plate, just within the lateral border; nearer the base of the arm the ridges move toward each other, becoming at the same time more and more strongly curved so that at the base of the arm the tentacle scale on the under arm plate occupies the center of a deep half cup shaped depression.

The tentacle scales are two in number, rather large, broad, and well rounded.

Type.—Cat. No. 15,470, U. S. N. M., from Hong Kong.